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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,082

04/14/2004

Timothy F. Myers

200312017-1

7010

22879 7590 06/19/2007

HEWLETT PACKARD COMPANY  
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INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

MAHONEY, CHRISTOPHER E

ART UNIT

PAPER NUMBER

2851

MAIL DATE

DELIVERY MODE

06/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/824,082

Applicant(s)

MYERS ET AL.

Examiner

Christopher E. Mahoney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date April 14, 2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claim 10 is objected to because of the following informalities: Claim 10 contains what appears to be an unintentional “[pnt]” appended to the end of “controlling”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Hewlett (U.S. Pat. No. 6,898,019). Hewlett teaches a digital display device comprising means for providing spectrally and spatially separated light 200/204/206 or 1202/1204/1210; means for modulating 216 or 1214 component colors from the spectrally and spatially separated light selectively and simultaneously transmitting the modulated component colors along an optical path; and means 206 or 1210 positioned in the optical path for sweeping the component colors across a viewing area. The applicant is directed to review figures 2 and 12.

Claims 1-2, 8, 10, 11-13, 15, 17, 20, 22-24, 26-31, 35, and 37-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura (U.S. Pat. No. 6,674,415). Nakamura teaches a

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display system comprising at least one light source 13/62 configured to provide spectrally and spatially separated light; a spatial light modulator 11/61 configured to receive the spectrally and spatially separated light and to modulate and selectively transmit selected spatial colors from the light source to form a set of partial images (fig. 2); and at least one scanning device 14/64 configured to receive the set of partial images and to scan the set of partial images across a viewing area 16/65 to create a full-frame color image. The applicant is directed to review figures 1 and 19. At least one projection optic 15/76 is disposed between the scanning device and the viewing area. Regarding claims 37-38, figure 19 discloses a movable mirror 19 to minimize the effects of one defective pixel. As the image is shifted, an alternate adjacent color will be displayed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The rejection of claims 1-2, 8, 10, 11-13, 15, 17, 20, 22-24, 26-31, 35, and 37-38 under 35 U.S.C. 102(e) as being anticipated by Nakamura are valid. The following rejection under 35 U.S.C. 103 is presented in order to expedite prosecution.

Claims 1-3, 8-13, 15-17, 20-33, 35, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Hewlett (U.S. Pat. No. 6,898,019) or Haven (U.S. Pat. No. 6,739,732). Nakamura teaches a display system comprising

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at least one light source 13/25/32/42/52/62 configured to provide light; a spatial light modulator 11/61 configured to receive the light and to modulate and selectively transmit selected spatial colors from the light source to form a set of partial images (fig. 2); and at least one scanning device 14/64 configured to receive images and to scan the set of images across a viewing area 16/65 to create a full-frame color image. The applicant is directed to review figures 1 and 19. At least one projection optic 15/76 is disposed between the scanning device and the viewing area. Regarding claims 37-38, figure 19 discloses a movable mirror 19 to minimize the effects of one defective pixel. As the image is shifted, an alternate adjacent color will be displayed.

Haven teaches a lamp 10/100 including means to spatially and spectrally separate the light 115/117/242 with one white light source 10/100 and at least one color separator 242. Col. 3, line 20 teaches using DMD SLMs. Col. 5, line 12 teaches the use of LCOS SLMs. Hewlett teaches a lamp 200 including means to spatially and spectrally separate the light 204/206/216 with one white light source 200 and at least one color separator 216. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Haven or Hewlett for the purpose of increased brightness.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Hewlett (U.S. Pat. No. 6,898,019) or Haven (U.S. Pat. No. 6,739,732) and further in view of Li (U.S. Pat. No. 6,840,623). Nakamura in view of Hewlett/Haven teaches the salient features of the claimed invention except for the type of bulb used for the light source. Li teaches that the bulb may be a metal halide, xenon, or mercury bulb (claim 25) or that it may be a halogen bulb (claim 26). It would have been obvious to one of

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ordinary skill in the art at the time the invention was made to utilize the features taught by Li for the purpose of utilizing readily available bright light sources.

Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Beeson (U.S. Pat. No. 7,025,464). Nakamura teaches the salient features of the claimed invention except for differently colored light sources each configured to simultaneously deliver colored light. Beeson teaches that utilizing a plurality of light emitting diodes (especially a combination of red, green and blue) as an alternative to a high powered lamp. The applicant is directed to review col. 1, lines 1-45 and col. 3, lines 5-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Beeson for the purpose of lowering power usage.

Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Hewlett (U.S. Pat. No. 6,898,019) or Haven (U.S. Pat. No. 6,739,732) and further in view of Beeson (U.S. Pat. No. 7,025,464). Nakamura in view of Haven/Hewlett teaches the salient features of the claimed invention except for differently colored light sources each configured to simultaneously deliver colored light. Beeson teaches that utilizing a plurality of light emitting diodes (especially a combination of red, green and blue) as an alternative to a high powered lamp. The applicant is directed to review col. 1, lines 1-45 and col. 3, lines 5-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Beeson for the purpose of lowering power usage.

Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Ogino (U.S. Pat. No. 6,102,545). Nakamura

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teaches the salient features of the claimed invention except for using a prism to separate the light. Ogino teaches in col. 19, lines 33-37 that it was known to utilize a light separating prism instead of dichroic filters/mirrors in order to separate light. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Beeson for the purpose of lowering power usage.

Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Hewlett (U.S. Pat. No. 6,898,019) or Haven (U.S. Pat. No. 6,739,732) and further in view of Ogino (U.S. Pat. No. 6,102,545). Nakamura in view of Haven/Hewlett teaches the salient features of the claimed invention except for using a prism to separate the light. Ogino teaches in col. 19, lines 33-37 that it was known to utilize a light separating prism instead of dichroic filters/mirrors in order to separate light. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Beeson for the purpose of lowering power usage.

Claims 14 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Shpizel (U.S. Pat. No. 7,036,935). Nakamura teaches the salient features of the claimed invention except for scanning in two directions. Shpizel teaches in figure 1 that it was known to scan in two directions using two reflection systems 40/42 and 50/52. The applicant is directed to further review co. 4, lines 11-32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Shpizel for the purpose of creating three dimensional images.

Claims 14 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Hewlett (U.S. Pat. No. 6,898,019) or Haven

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(U.S. Pat. No. 6,739,732) and further in view of Shpizel (U.S. Pat. No. 7,036,935). Nakamura in view of Haven/Hewlett teaches the salient features of the claimed invention except for scanning in two directions. Shpizel teaches in figure 1 that it was known to scan in two directions using two reflection systems 40/42 and 50/52. The applicant is directed to further review co. 4, lines 11-32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Shpizel for the purpose of creating three dimensional images.

Claims 14, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Agostinelli (U.S. Pat. No. 7,111,945). Nakamura teaches the salient features of the claimed invention except for scanning in two directions and the diffractive SLM. Agostinelli teaches in col. 2, lines 22-59 that it was known to use a diffractive SLM. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Agostinelli for the purpose of providing excellent speed, brightness and contrast to the modulator.

Claims 14, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Pat. No. 6,674,415) in view of Hewlett (U.S. Pat. No. 6,898,019) or Haven (U.S. Pat. No. 6,739,732) and further in view of Agostinelli (U.S. Pat. No. 7,111,945). Nakamura in view of Haven/Hewlett teaches the salient features of the claimed invention except for scanning in two directions and the diffractive SLM. Agostinelli teaches in col. 2, lines 22-59 that it was known to use a diffractive SLM. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Agostinelli for the purpose of providing excellent speed, brightness and contrast to the modulator.



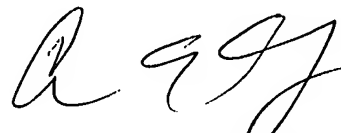
*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Mahoney whose telephone number is (571) 272-2122. The examiner can normally be reached on 8:30AM-5PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christopher E Mahoney  
Primary Examiner  
Art Unit 2851